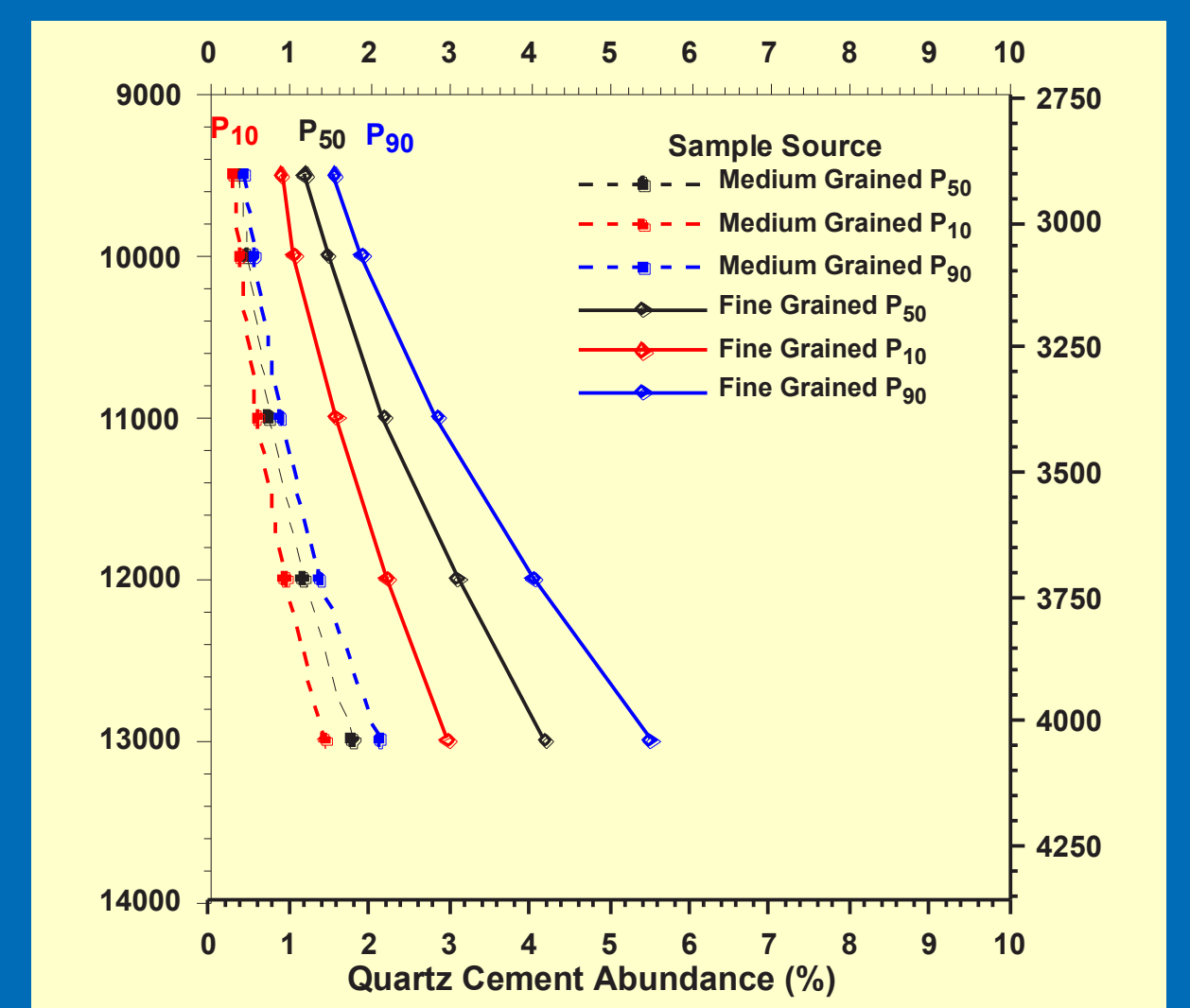
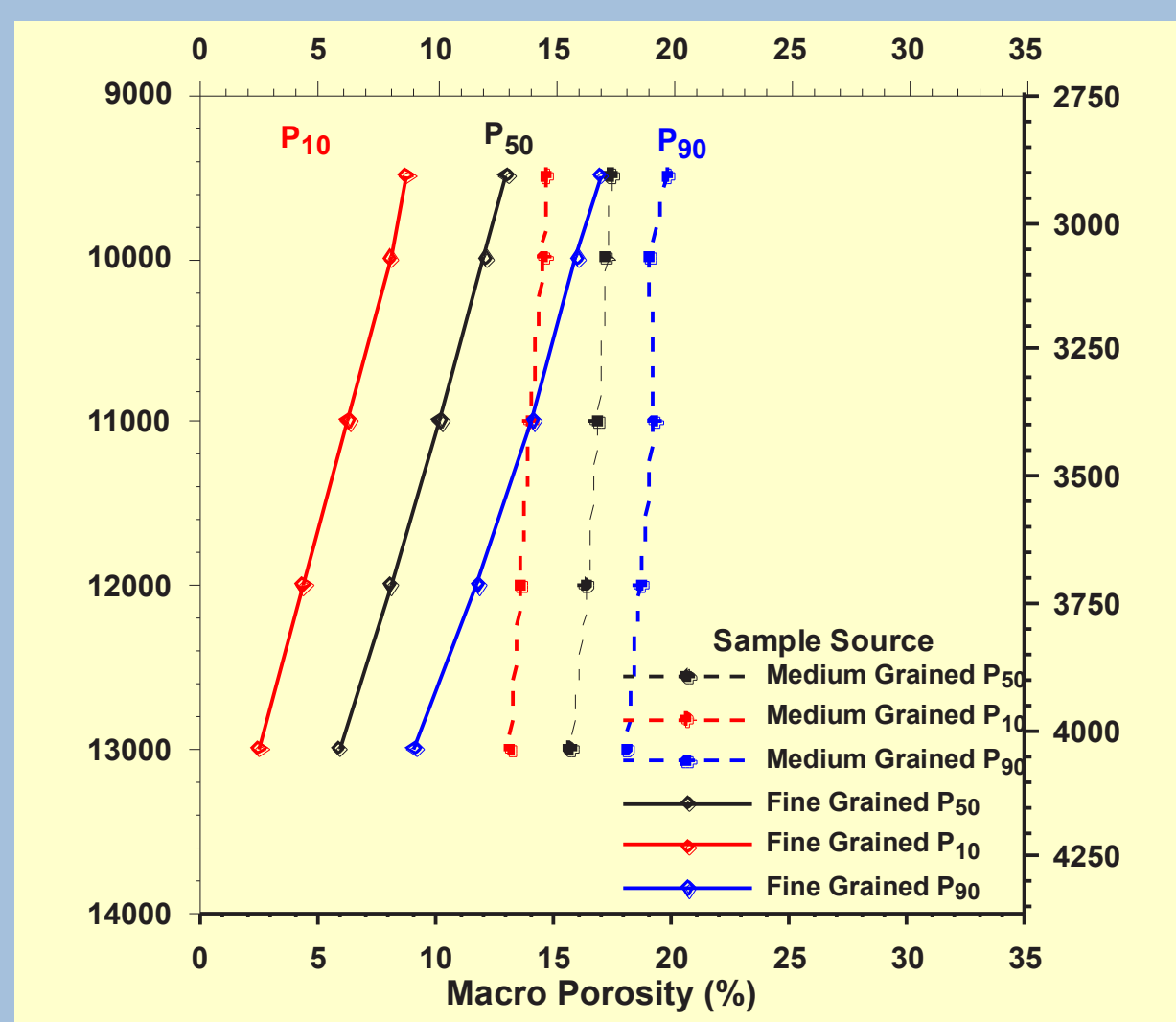
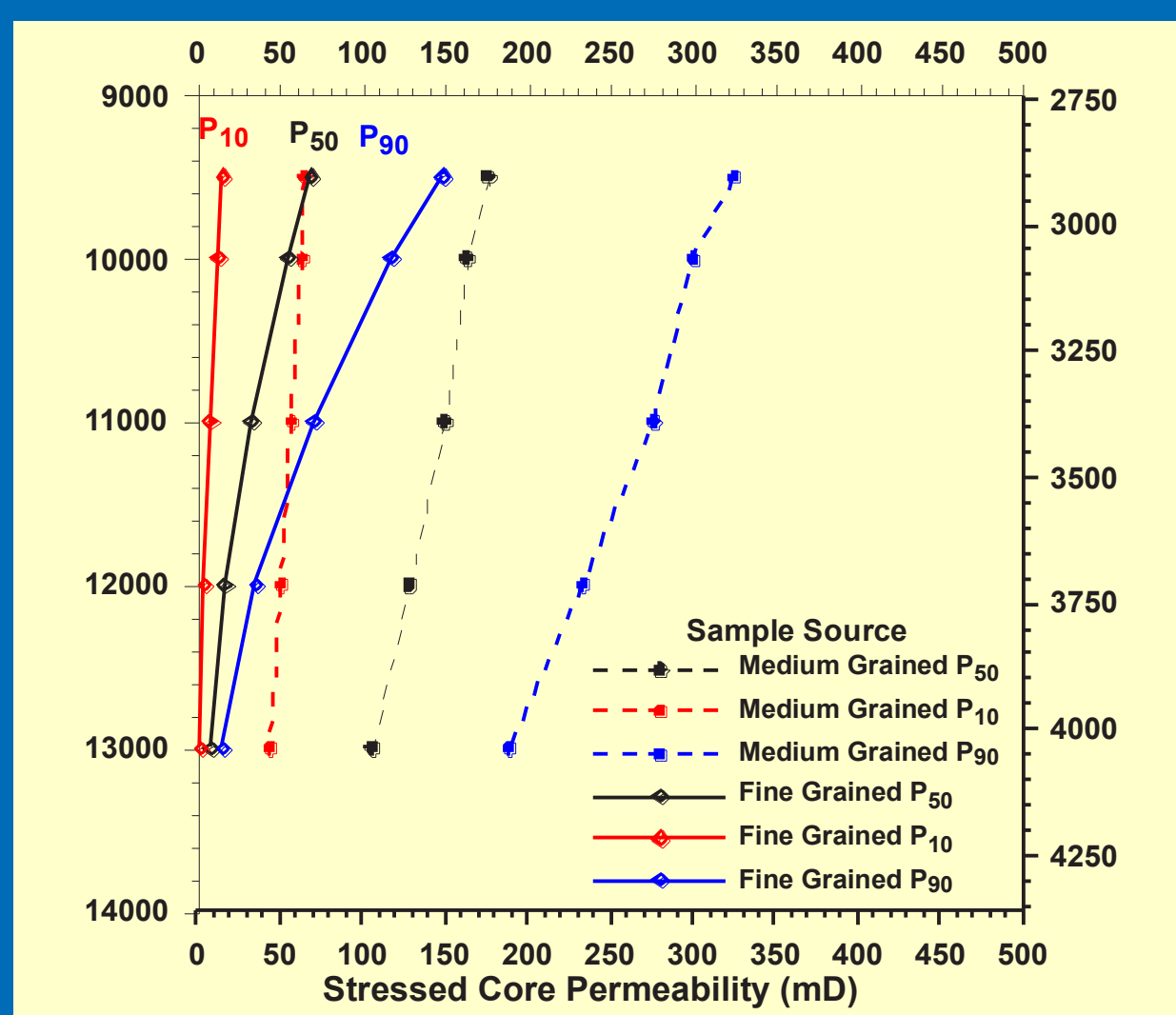
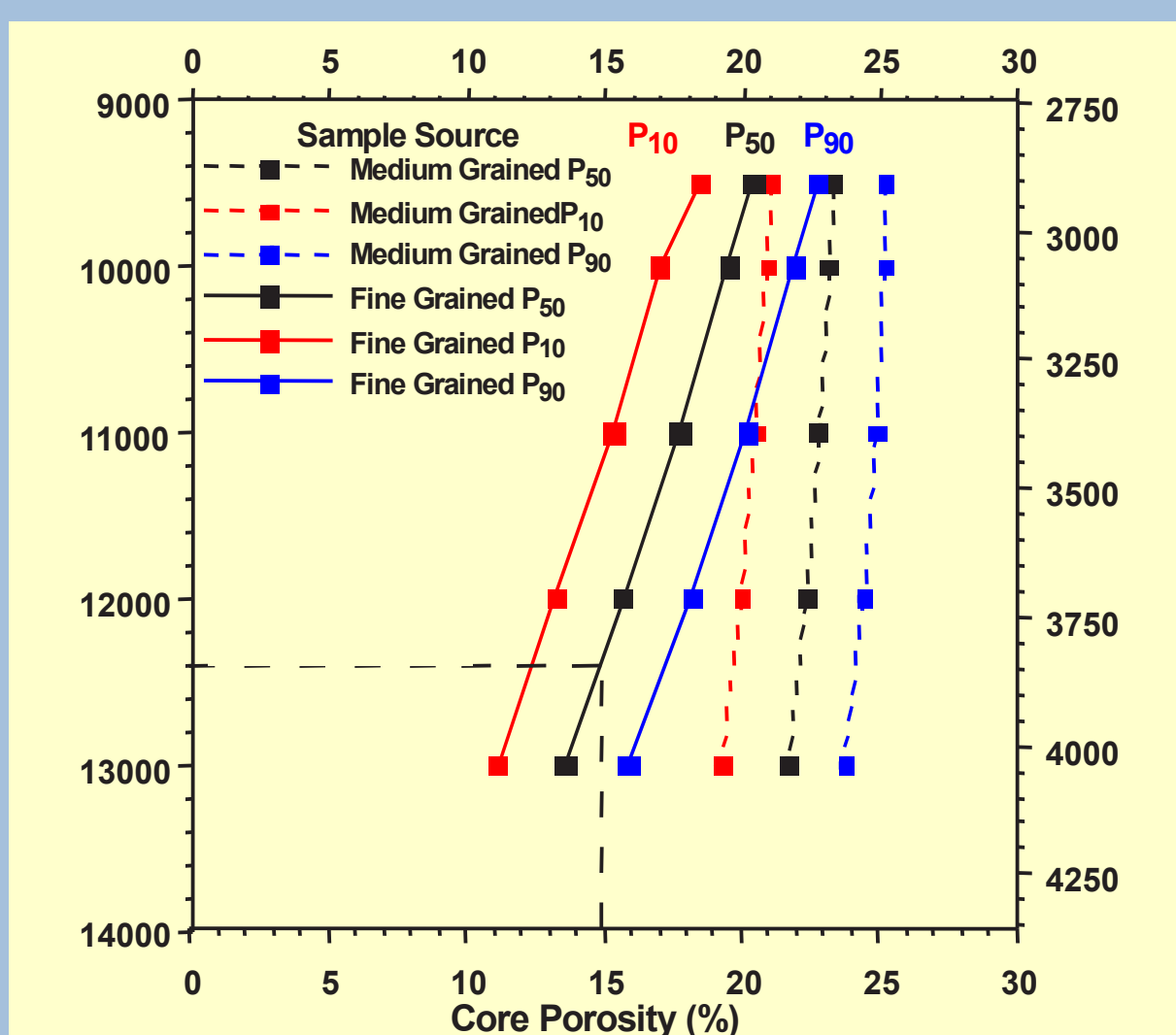
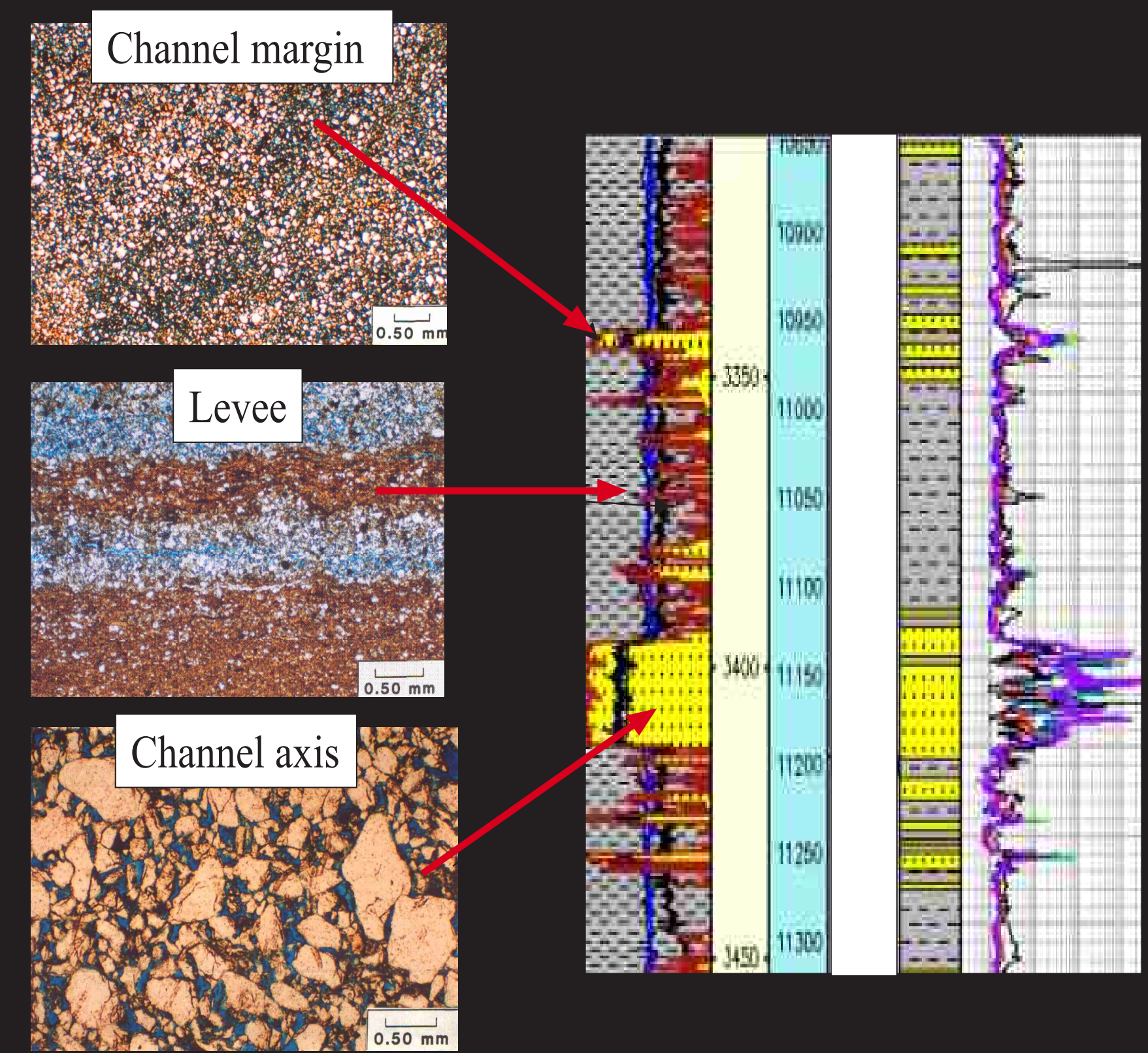


Reservoir Character

Petrographic analysis and *Touchstone* (porosity-depth) modeling show these fine- and medium-grained sandstones respond differently to burial diagenesis. Porosity and permeability of fine-grained (channel margin) lithofacies are consistently lower at a given burial depth relative to medium-grained (channel axis) lithofacies. Also, finer grained lithofacies are more susceptible to intergranular cementation by syntaxial quartz during burial diagenesis.

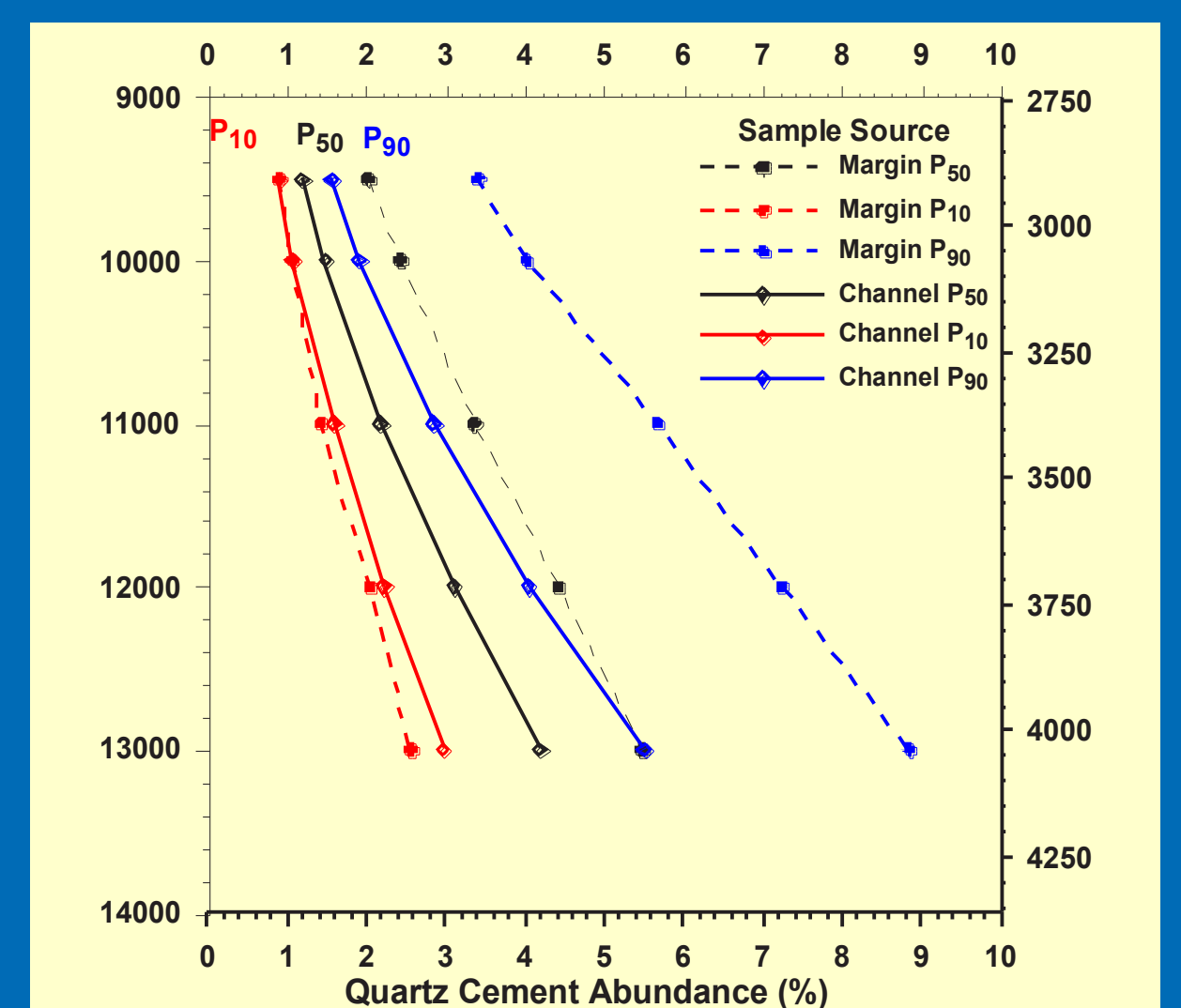
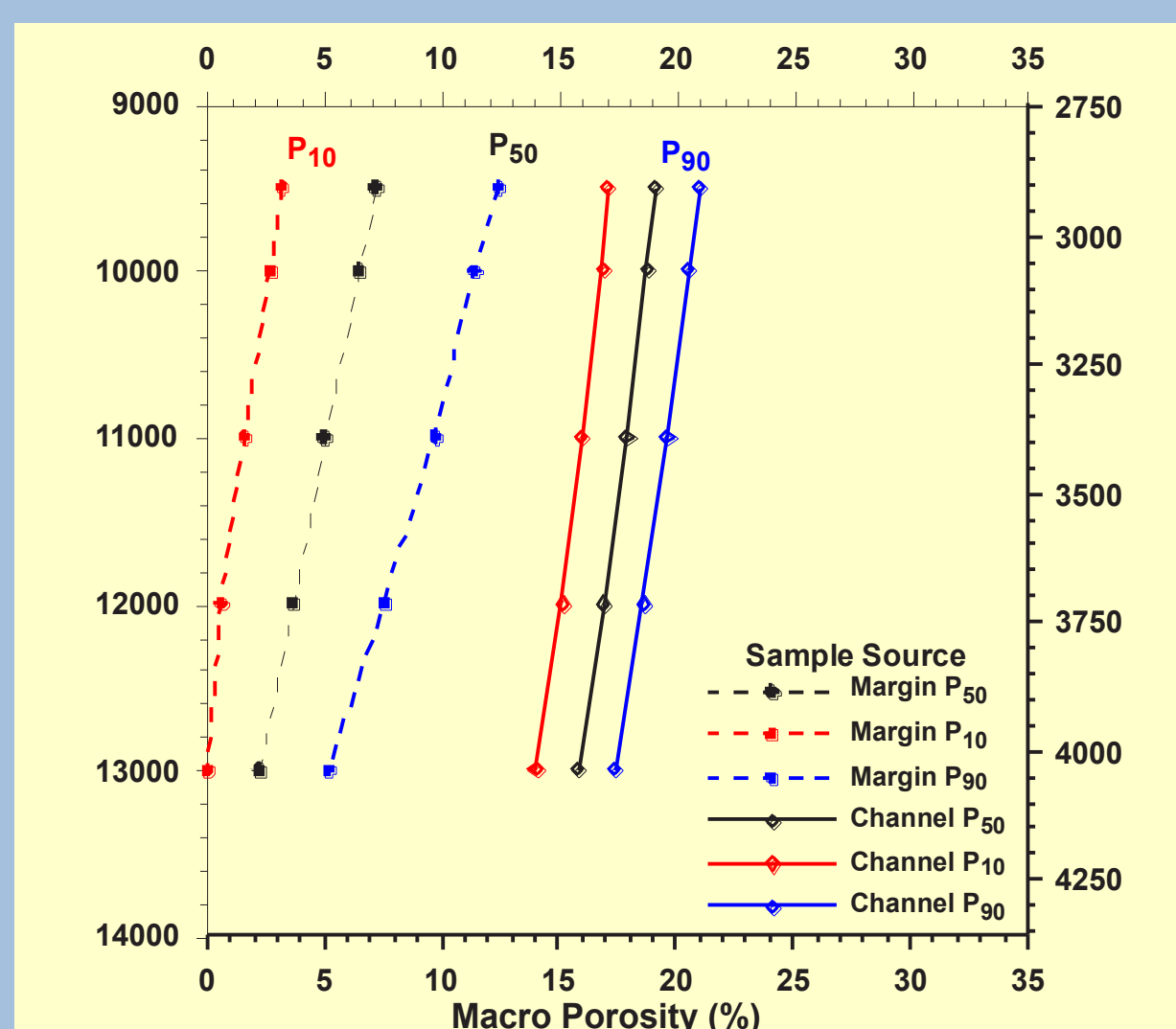
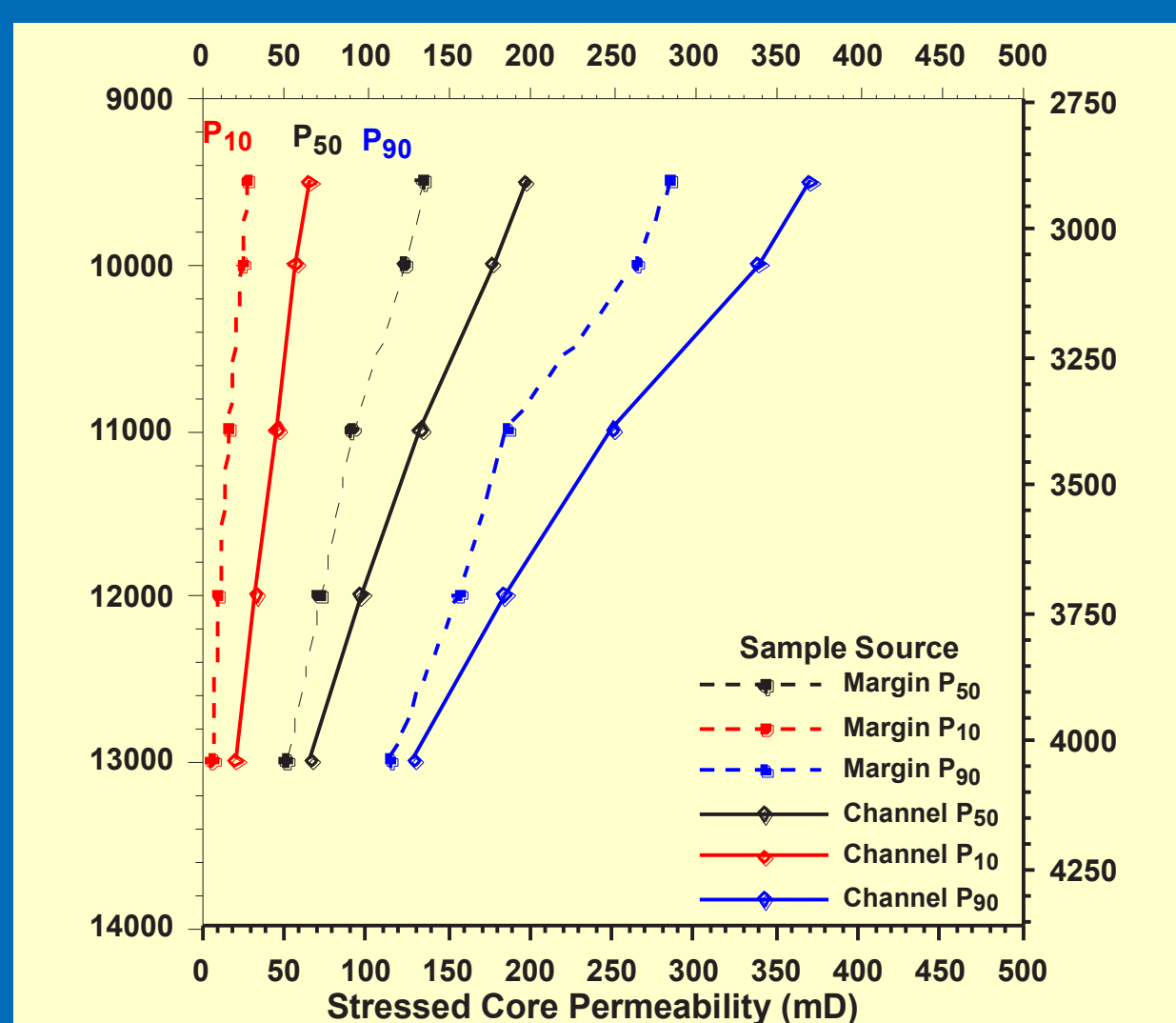
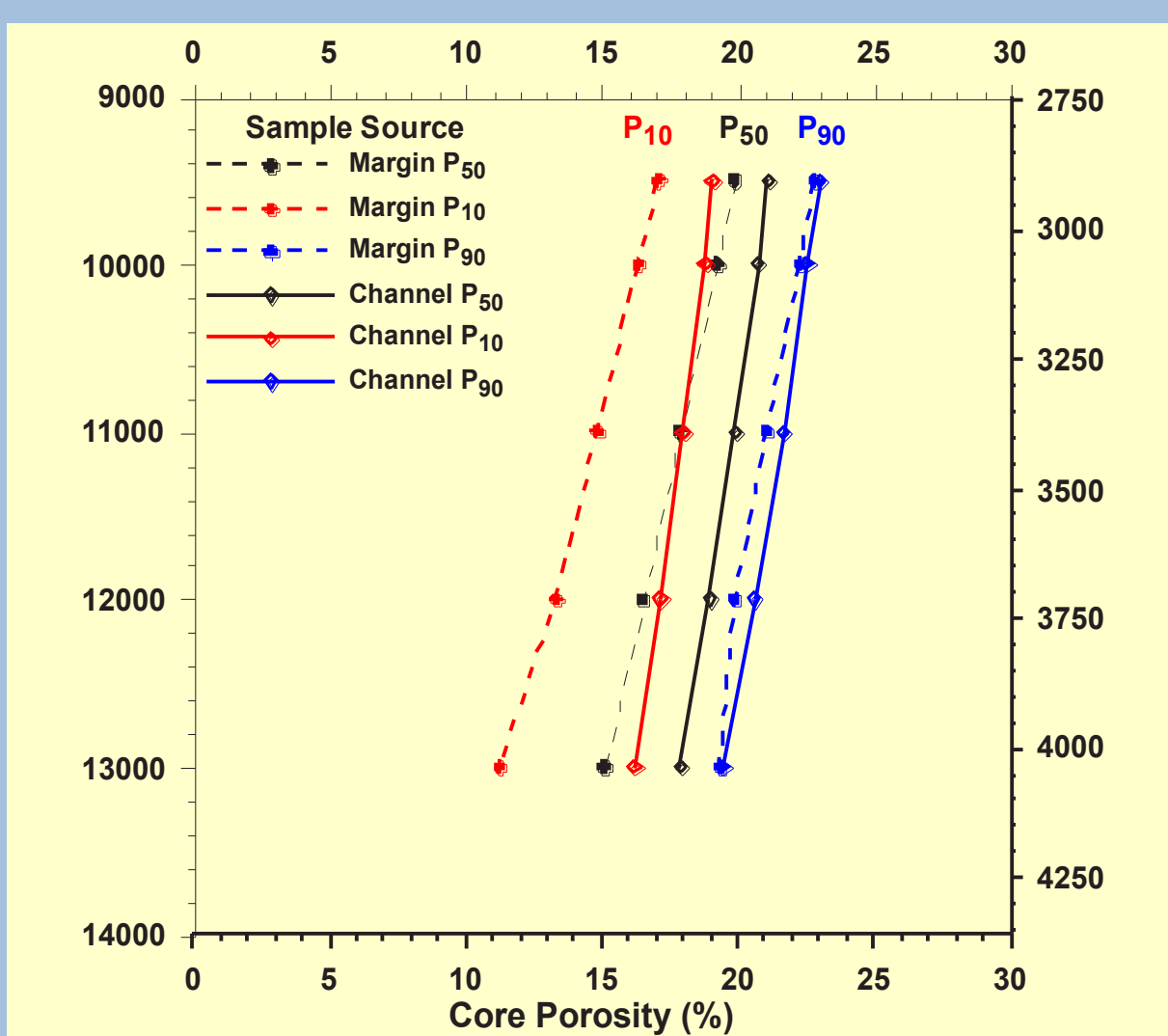


At a given burial depth, fine-grained subarkosic sandstones have lower porosity relative to medium-grained sandstones. Also, porosity in the fine grained-sandstones decreases more rapidly during burial.

Fine-grained sandstones have lower permeability relative to medium-grained sandstones in this model. Fine-grained sandstones exhibit a more rapid loss of permeability during burial.

At a given burial depth, fine-grained (subarkosic) sandstones have less macro-porosity relative to medium-grained quartzose sandstones. Also, porosity in the fine-grained sandstones decreases more rapidly during burial.

Fine-grained sandstones are more susceptible to porosity reduction by quartz cementation as compared with medium-grained sandstones in this model.



At a given burial depth, channel margin sandstones have less porosity relative to coarser channel axis sandstones. Also, the rate of porosity loss in channel margin sandstones exceeds that of the modeled channel axis sandstones.

Channel margin sandstones have lower permeability relative to channel axis sandstones, and model results show channel margin sandstones losing permeability more rapidly during burial.

At a given burial depth, channel margin sandstones have considerably less macro-porosity relative to coarser grained channel axis sandstones. Also, porosity in channel margin sandstones decreases more rapidly during burial.

Channel margin sandstones are more susceptible to porosity reduction by quartz cementation as compared with channel axis sandstones in this model.

